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#4

CAC AGA GTT AGT TTC CTT GCT CTC CTC TTA TTT GGA ATG TCT CTG
 His Arg Val Ser Phe Leu Ala Leu Leu Phe Gly Met Ser Leu
 -20

-29

CGA GTA AGT ATG GCT GTT CGA ATG TCT TCT CGT
 Arg Val Ser Met Ala Val
 -20

66

CTT GTA AGC AAT GTG GAA CAT GCA GAT GCC AAG GCT TGT ACC TTA AAC
 Leu Val Ser Asn Val Glu His Ala Asp Ala Lys Ala Cys Thr Leu Asn
 -10

-1 ↑ 1

TGT GAT CCA AGA ATT GCC TAT GGA GTT TGC CCG CGT TCA GAA GAA AAG
 Cys Asp Pro Arg Ile Ala Tyr Gly Val Cys Pro Arg Ser Glu Glu Lys
 10 15 20

114

AAG AAT GAT CGG ATA TGC ACC AAC TGT TGC GCA GGC ACG AAG GGT TGT
 Lys Asn Asp Arg Ile Cys Thr Asn Cys Cys Ala Gly Thr Lys Gly Cys
 25

AAG TAC TTC AGT GAT GGA ACT TTT GTT TGT GAA GGA GAG TCT GAT
 Lys Tyr Phe Ser Asp Asp Gly Thr Phe Val Cys Glu Gly Ser Asp
 40 45 50

AAG TAC TTC AGT GAT GGA ACT TTT GTT TGT GAA GGA GAG TCT GAT
 Lys Tyr Phe Ser Asp Asp Gly Thr Phe Val Cys Glu Gly Ser Asp
 66 70 74

210

258

A

Figure 1a

A

A**A**

CCT	AGA	AAT	CCA	AAG	GCT	TGT	ACC	TTA	AAC	TGT	GAT	CCA	AGA	ATT	GCC	306
Pro	Arg	Asn	Pro	Lys	Ala	Cys	Thr	<u>Leu</u>	<u>Asn</u>	Cys	Asp	Pro	Arg	Ile	Ala	
55										65						70
TAT	GGA	GTT	TGC	CCG	CGT	TCA	GAA	GAA	AAG	AAG	AAT	GAT	CGG	ATA	TGC	354
Tyr	Gly	Val	Cys	Pro	Arg	Ser	Glu	Glu	Lys	Lys	Asn	Asp	Arg	Ile	Cys	
										80						85
ACC	AAC	TGT	TGC	GCA	GGC	ACG	AAG	GGT	TGT	AAG	TAC	TTC	AGT	GAT	GAT	402
Thr	Asn	Cys	Cys	Ala	Gly	Thr	Lys	Gly	Cys	Lys	Tyr	Phe	Ser	Asp	Asp	
									90							
GGA	ACT	TTT	GTT	GAA	GGA	GAG	TCT	GAT	CCT	AGA	AAT	CCA	AAG	GCT	GCT	450
Gly	Thr	Phe	Val	Cys	Glu	Gly	Glu	Ser	Asp	Pro	Arg	Asn	Pro	Lys	Ala	
									105							
TGT	CCT	CGG	AAT	TGC	GAT	CCA	AGA	ATT	GCC	TAT	GGG	ATT	TGC	CCA	CTT	498
Cys	Pro	<u>Arg</u>	<u>Asn</u>	Cys	Asp	Pro	Arg	Ile	Ala	Tyr	Gly	Ile	Cys	Pro	Leu	
									120							
GCA	GAA	GAA	AAG	AAG	AAT	GAT	CGG	ATA	TGC	ACC	AAC	TGT	TGC	GCA	GGC	546
Ala	Glu	Glu	Lys	Lys	Asn	Asp	Arg	Ile	Cys	Thr	Asn	Cys	Cys	Ala	Gly	
									135							
									140							
										145						
											150					

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B**B**

GCA	GAA	GAA	AAG	AAG	AAT	GAT	CGG	ATA	TGC	ACC	AAC	TGT	TGC	GCA	GGC	546
Ala	Glu	Glu	Lys	Lys	Asn	Asp	Arg	Ile	Cys	Thr	Asn	Cys	Cys	Ala	Gly	
									135							

Figure 1b

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AAA	AAG	GCT	TGT	AAG	TAC	TTT	AGT	GAT	GGA	ACT	TTT	GTT	TGT	GAA	594
<u>Lys</u>	<u>Lys</u>	<u>Gly</u>	<u>Cys</u>	<u>Lys</u>	<u>Tyr</u>	<u>Phe</u>	<u>Ser</u>	<u>Asp</u>	<u>Asp</u>	<u>GLY</u>	<u>Thr</u>	<u>Phe</u>	<u>Val</u>	<u>Cys</u>	<u>Glu</u>
															165
GGA	GAG	TCT	GAT	CCT	AAA	AAT	CCA	AAG	GCC	TGT	CCT	CGG	AAT	TGT	642
<u>Gly</u>	<u>Gly</u>	<u>Ser</u>	<u>Asp</u>	<u>Pro</u>	<u>Lys</u>	<u>Asn</u>	<u>Pro</u>	<u>Lys</u>	<u>Ala</u>	<u>Cys</u>	<u>Pro</u>	<u>Arg</u>	<u>Asn</u>	<u>Cys</u>	<u>Asp</u>
															180
GGA	AGA	ATT	GCC	TAT	GGG	ATT	TGC	CCA	CTT	TCA	GAA	AAG	AAG	AAT	690
<u>Gly</u>	<u>Arg</u>	<u>Ile</u>	<u>Ala</u>	<u>Tyr</u>	<u>GLY</u>	<u>Ile</u>	<u>Cys</u>	<u>Pro</u>	<u>Leu</u>	<u>Ser</u>	<u>Glu</u>	<u>Gl</u>	<u>Lys</u>	<u>Lys</u>	<u>Asn</u>
															195
GAT	CGG	ATA	TGC	ACC	AAC	TGC	TGC	GCA	GGC	AAA	AAG	GGT	TGT	AAG	738
<u>Asp</u>	<u>Arg</u>	<u>Ile</u>	<u>Cys</u>	<u>Thr</u>	<u>Asn</u>	<u>Cys</u>	<u>Cys</u>	<u>Ala</u>	<u>Gly</u>	<u>Lys</u>	<u>Lys</u>	<u>Gly</u>	<u>Cys</u>	<u>Lys</u>	<u>Tyr</u>
															210
TTT	AGT	GAT	GGA	ACT	TTT	GTT	TGT	GAA	GGA	GAG	TCT	GAT	CCT	AAA	786
<u>Phe</u>	<u>Ser</u>	<u>Asp</u>	<u>Asp</u>	<u>Gly</u>	<u>Thr</u>	<u>Phe</u>	<u>Val</u>	<u>Cys</u>	<u>Glu</u>	<u>Glu</u>	<u>Ser</u>	<u>Asp</u>	<u>Pro</u>	<u>Lys</u>	
															230
AAT	CCA	AAG	GCT	TGT	CCT	CGG	AAT	TGT	GAT	GGA	AGA	ATT	GCC	TAT	834
<u>Asn</u>	<u>Pro</u>	<u>Lys</u>	<u>Ala</u>	<u>Cys</u>	<u>Pro</u>	<u>Arg</u>	<u>Asn</u>	<u>Cys</u>	<u>Asp</u>	<u>GLY</u>	<u>Arg</u>	<u>Ile</u>	<u>Ala</u>	<u>Tyr</u>	<u>Gly</u>
															245

C**Figure 1c**

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CGG	AAT	TGT	GAT	GGA	AGA	ATT	GCC	TAT	GGA	ATT	TGC	CCA	CTT	TCA	GAA	1026
Arg	Asn	Cys	Asp	Gly	Arg	Ile	Ala	Tyr	Gly	Ile	Cys	Pro	Leu	Ser	Glu	310
295												305				

GGC	TGT	AAG	TAC	TTT	AGT	GAT	GGA	ACT	TTT	ATT	TGT	GAA	GGA	GAA	1122
<u>GLY</u>	<u>Cys</u>	<u>Lys</u>	<u>Tyr</u>	<u>Phe</u>	<u>Ser</u>	<u>Asp</u>	<u>Asp</u>	<u>Gly</u>	<u>Thr</u>	<u>Phe</u>	<u>Ile</u>	<u>Cys</u>	<u>Glu</u>	<u>Gly</u>	<u>Glu</u>
330								335							340

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Figure 1d

D**D**

TCT	GAA	TAT	GCC	AGC	AAA	GTG	GAT	GAA	TAT	GTT	GGT	GAA	GTG	GAG	AAT	1170
Aer	Glu	Tyr	Ala	Ser	Lys	Val	Asp	Glu	Tyr	Val	Gly	Glu	Val	Glu	Asn	
345																355
GAT	CTC	CAG	AAG	TCT	AAG	GTT	GCT	GTT	TCC	TAAGTCCCTAA	CTAATAATAAT					1220
Asp	Leu	Gln	Lys	Ser	Lys	Val	Ala	Val	Ser							
360																365
GTAGTCTATG	TATGAAACAA	AGGCATGCCA	ATATGCTCTG	TCTTGCTGT	AATCTGTAAAT											1280
ATGGTAGTGG	AGCTTTCCA	CTGCCCTGTT	AATAAGAAAT	GGAGCACTAG	TTTGTTTAG											1340
TTAAAAAAA	AAAAAAA															1360

Figure 1e

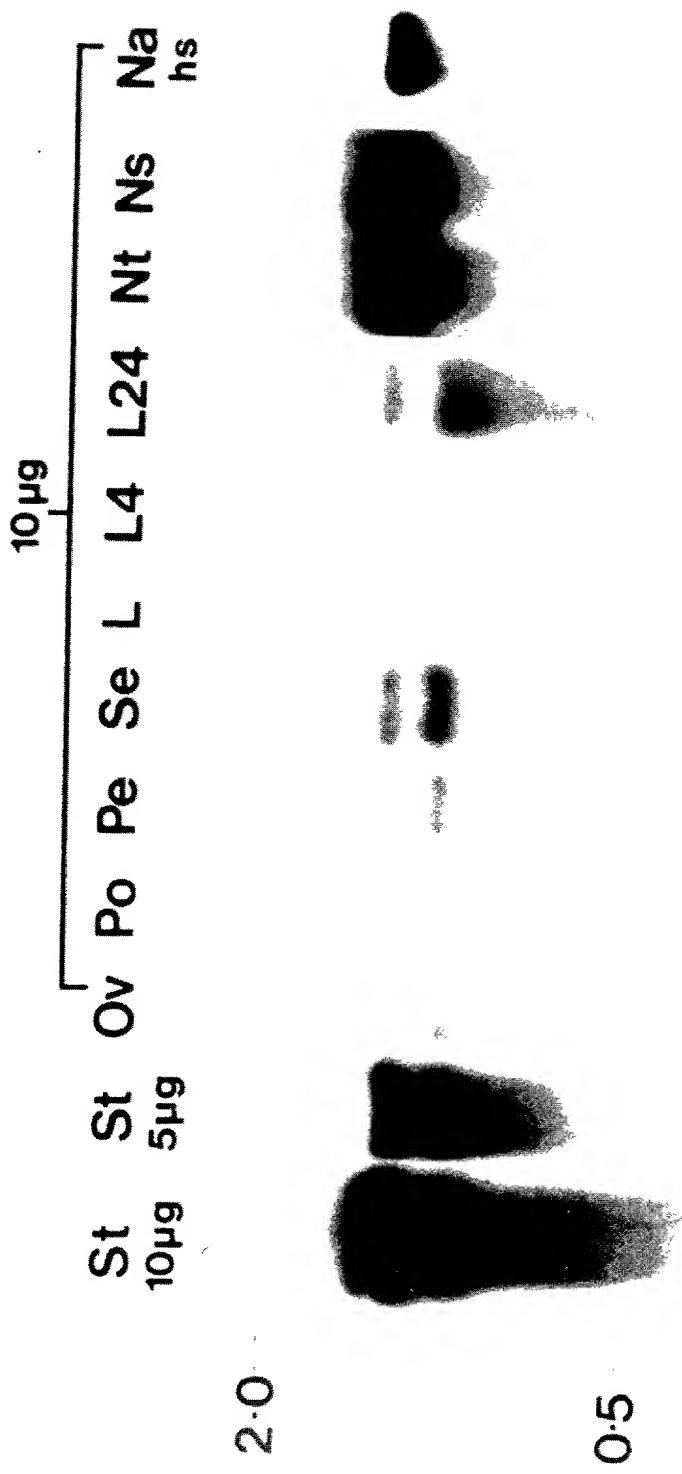


Figure 2

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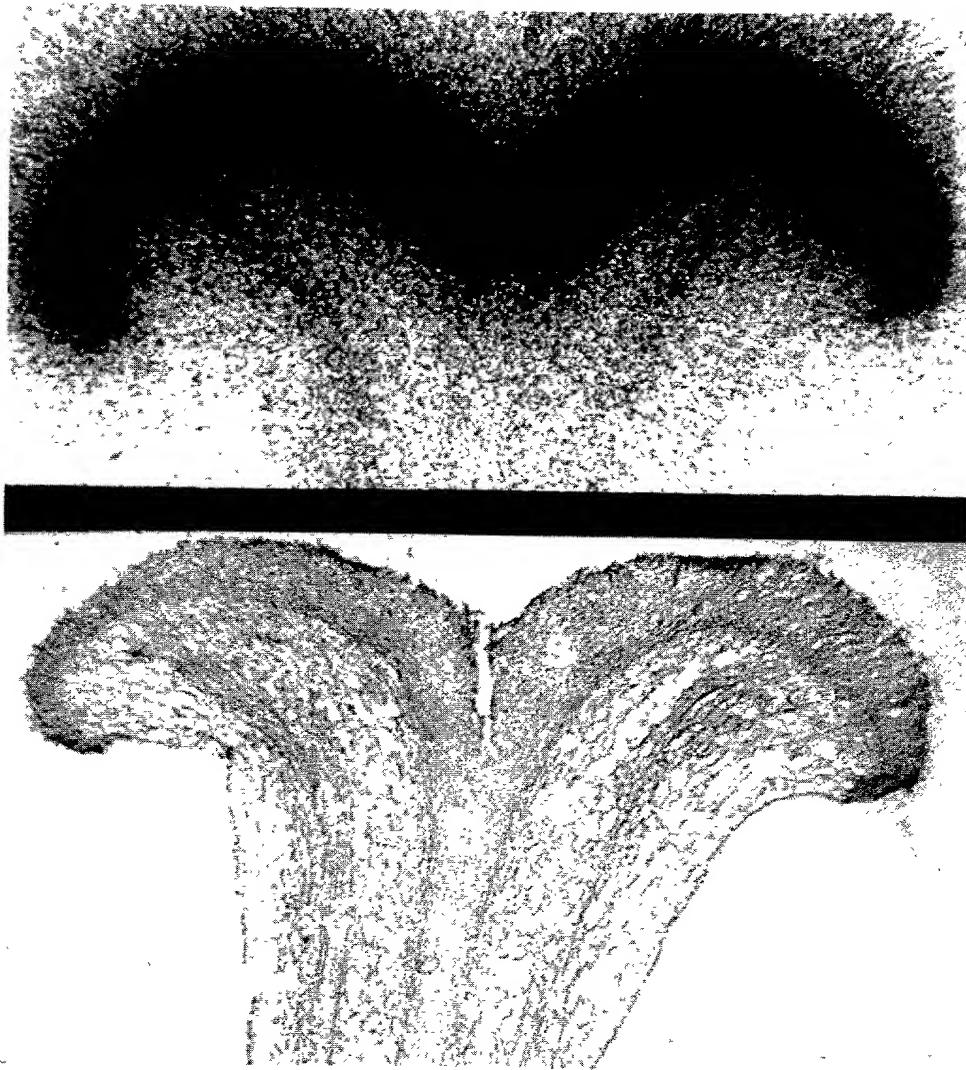


Figure 3

EcoRI HindIII

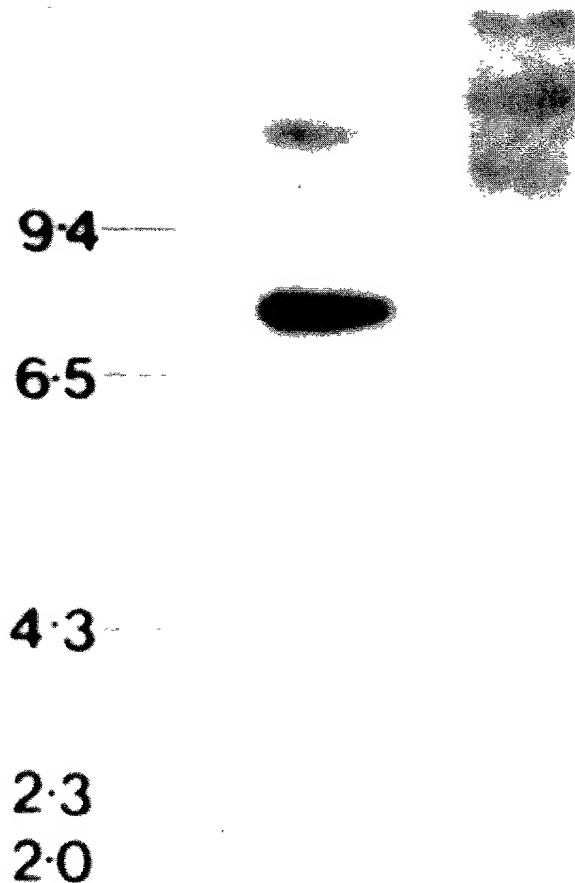


Figure 4

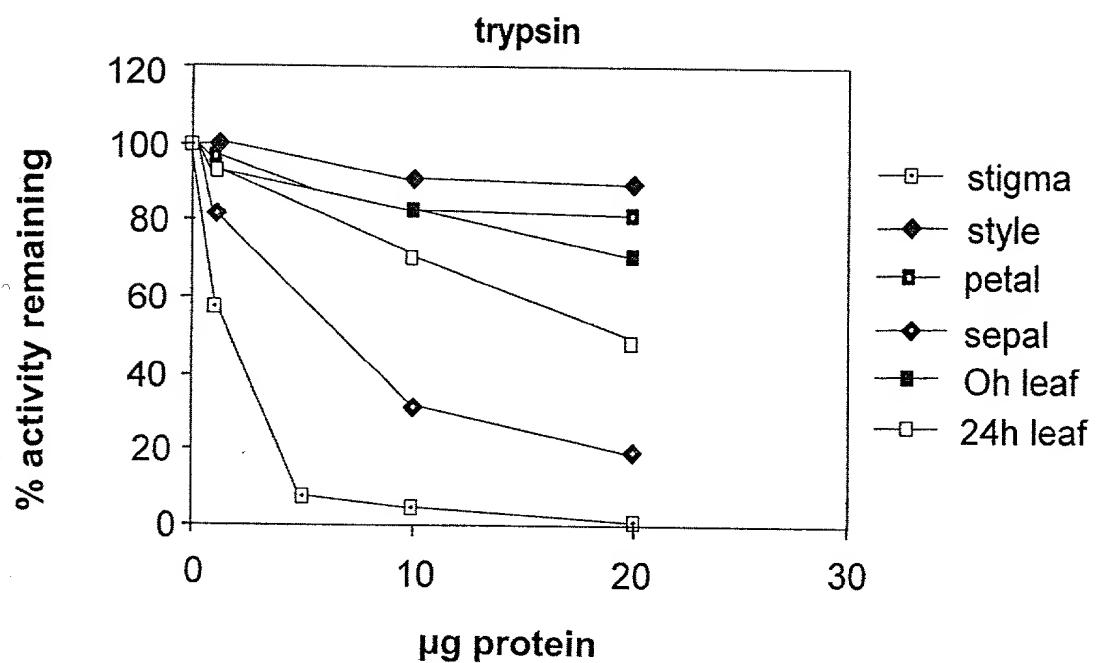


Figure 5a

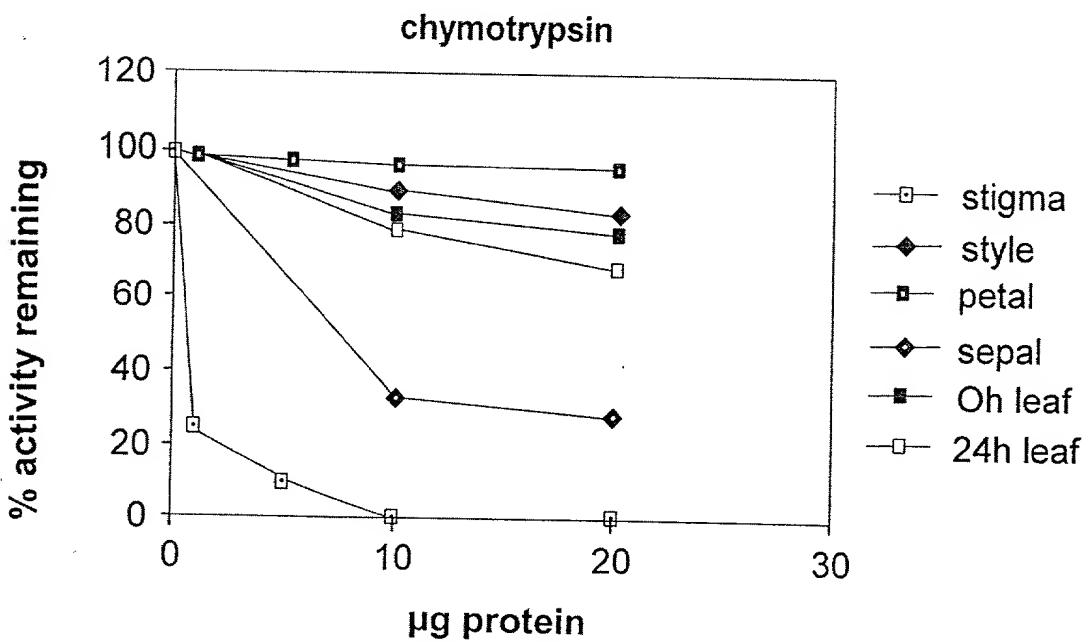


Figure 5b

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Figure 6a

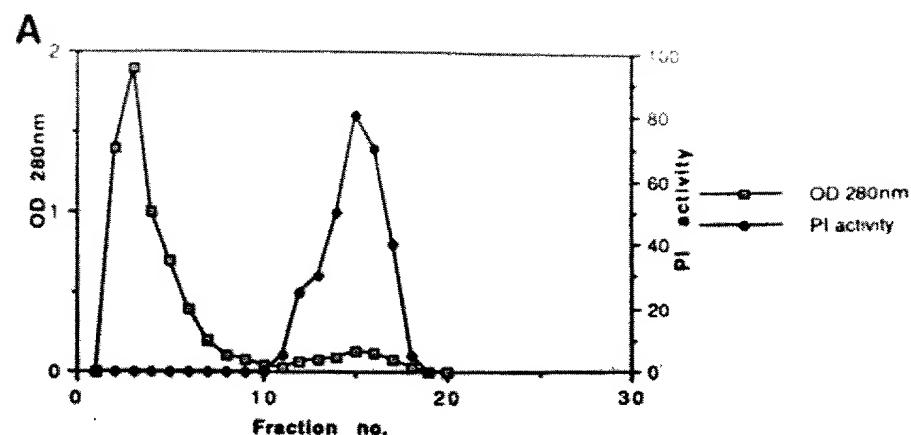


Figure 6b

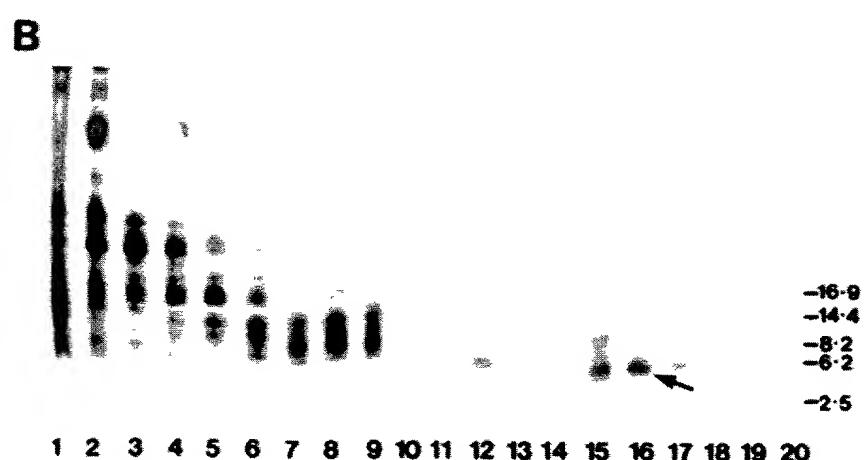
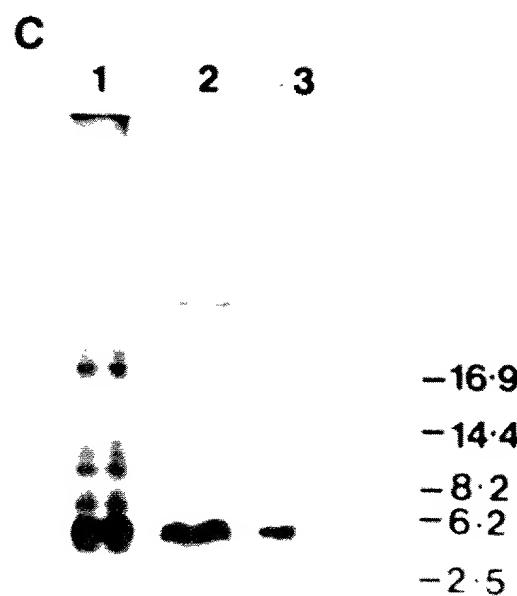


Figure 6c



HYDROPATHY INDEX

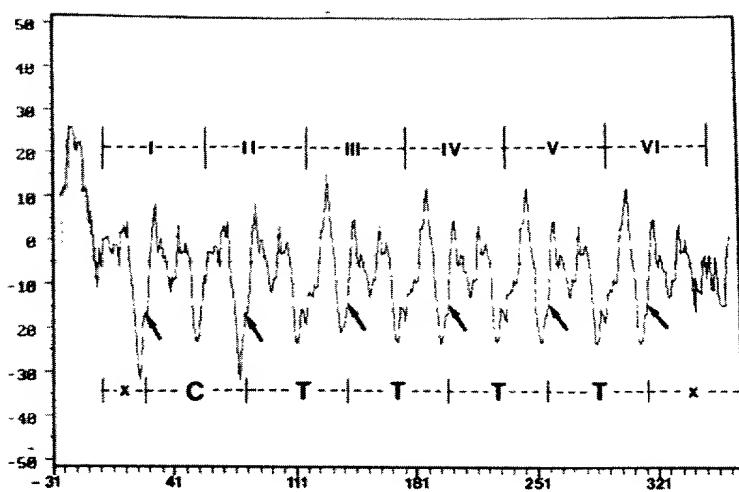


Figure 7a

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HYDROPATHY INDEX

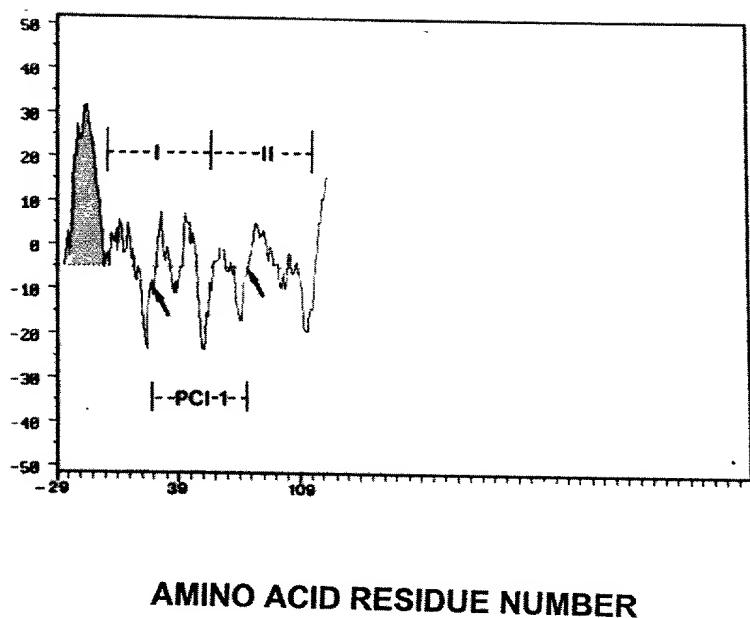


Figure 7 b

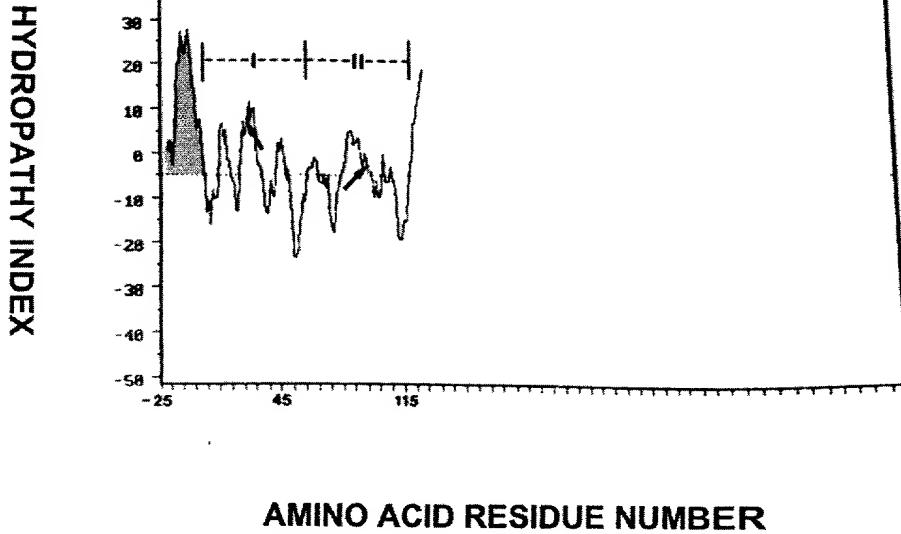


Figure 7c

Figure 8a



Figure 8b

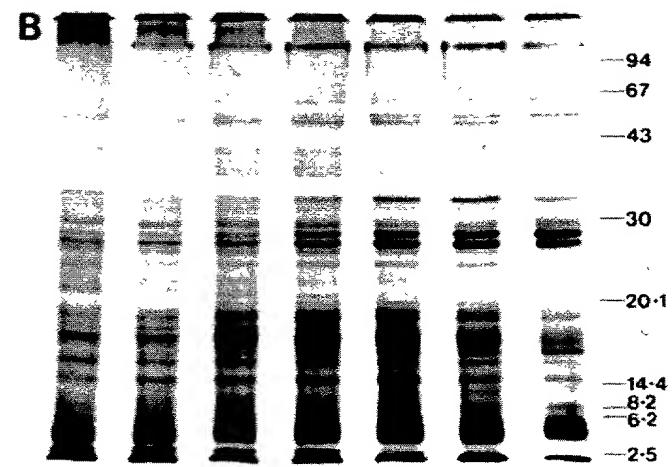
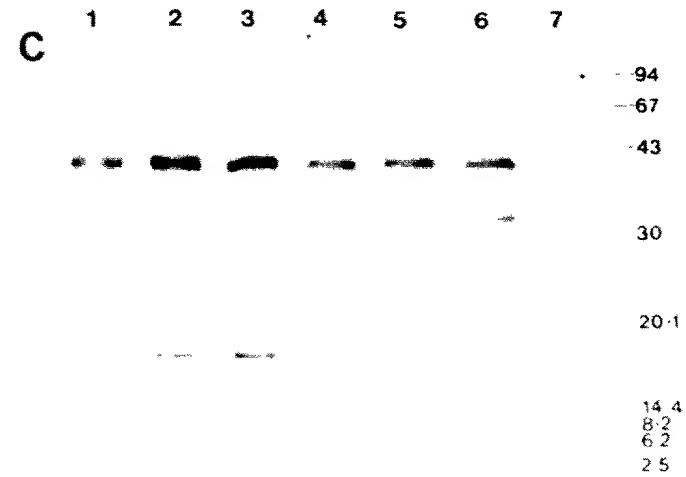


Figure 8c



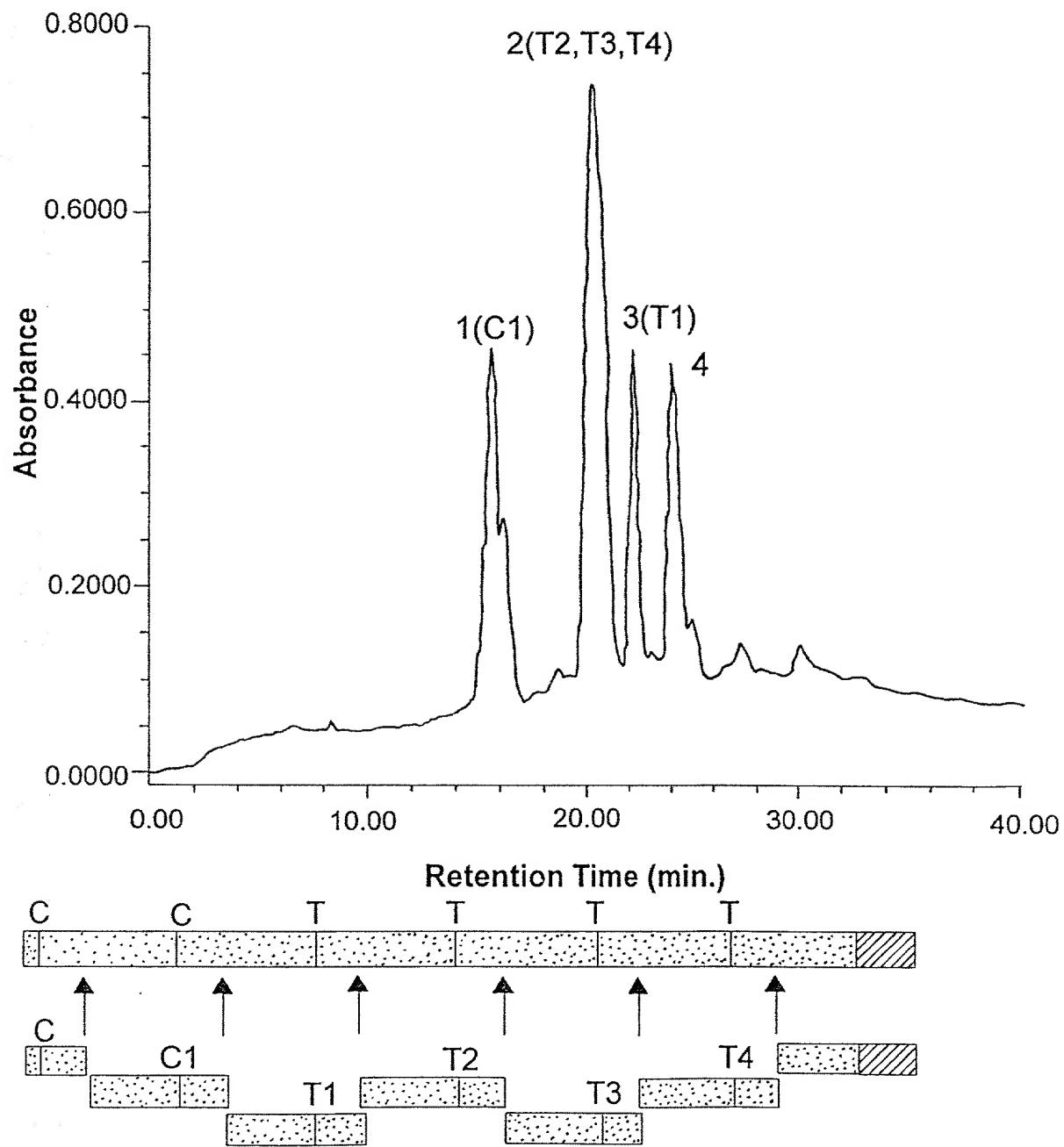


Figure 9a

C1 DRIICTNCCAGTKGCKYFSDDDGTfvCEGESDPRNPKACT**I**LNCDPRIAYGVCPRS
 T1 DRIICTNCCAGTKGCKYFSDDDGTfvCEGESDPRNPKACEPRNCDPRIAYGICPL
 T2 DRIICTNCCAG**I**KKGCKYFSDDDGTfvCEGESDPRNPKACPRNC**I**CDGRIAYGICPLS
 T3 DRIICTNCCAG**I**KKGCKYFSDDDGTfvCEGESDPRNPKACPRNC**I**CDGRIAYGICPLS
 T4 DRIICTNCCAG**I**KKGCKYFSDDDGTfvCEGESDPRNPKACPRNC**I**CDGRIAYGICPLS
 1 10 20 30 40 50

Figure 9b

-10 1 10
 I C P (R or L) (S or A) E E K K N D R I C T N C C A G (T or K) R G

Figure 10

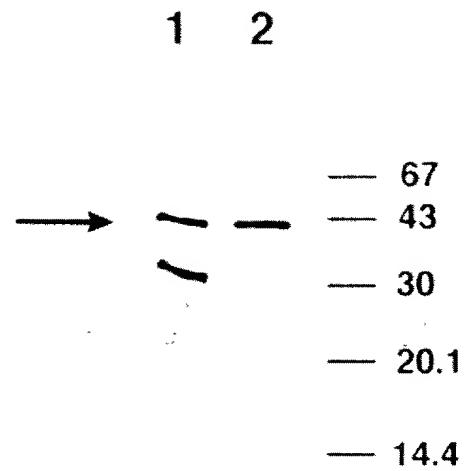


Figure 11a

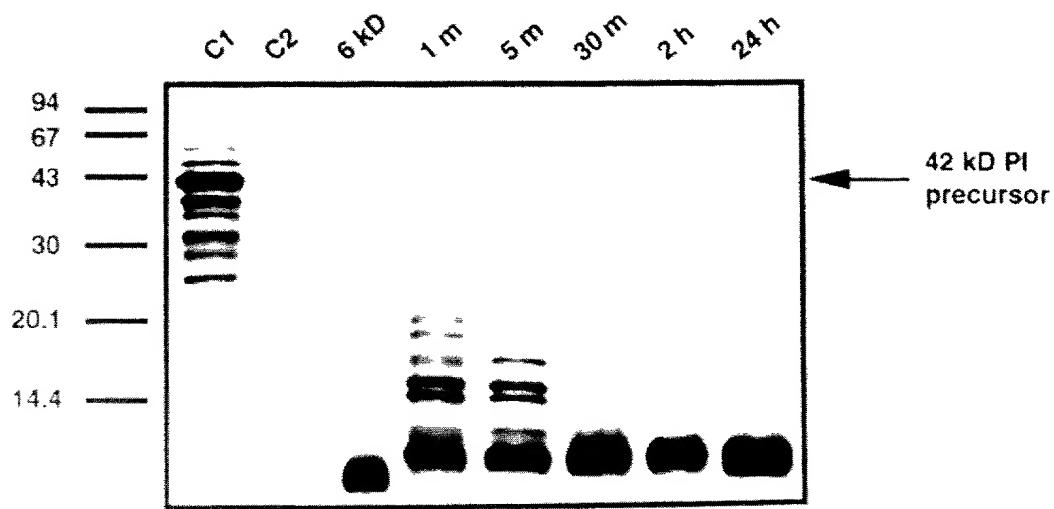


Figure 11 b

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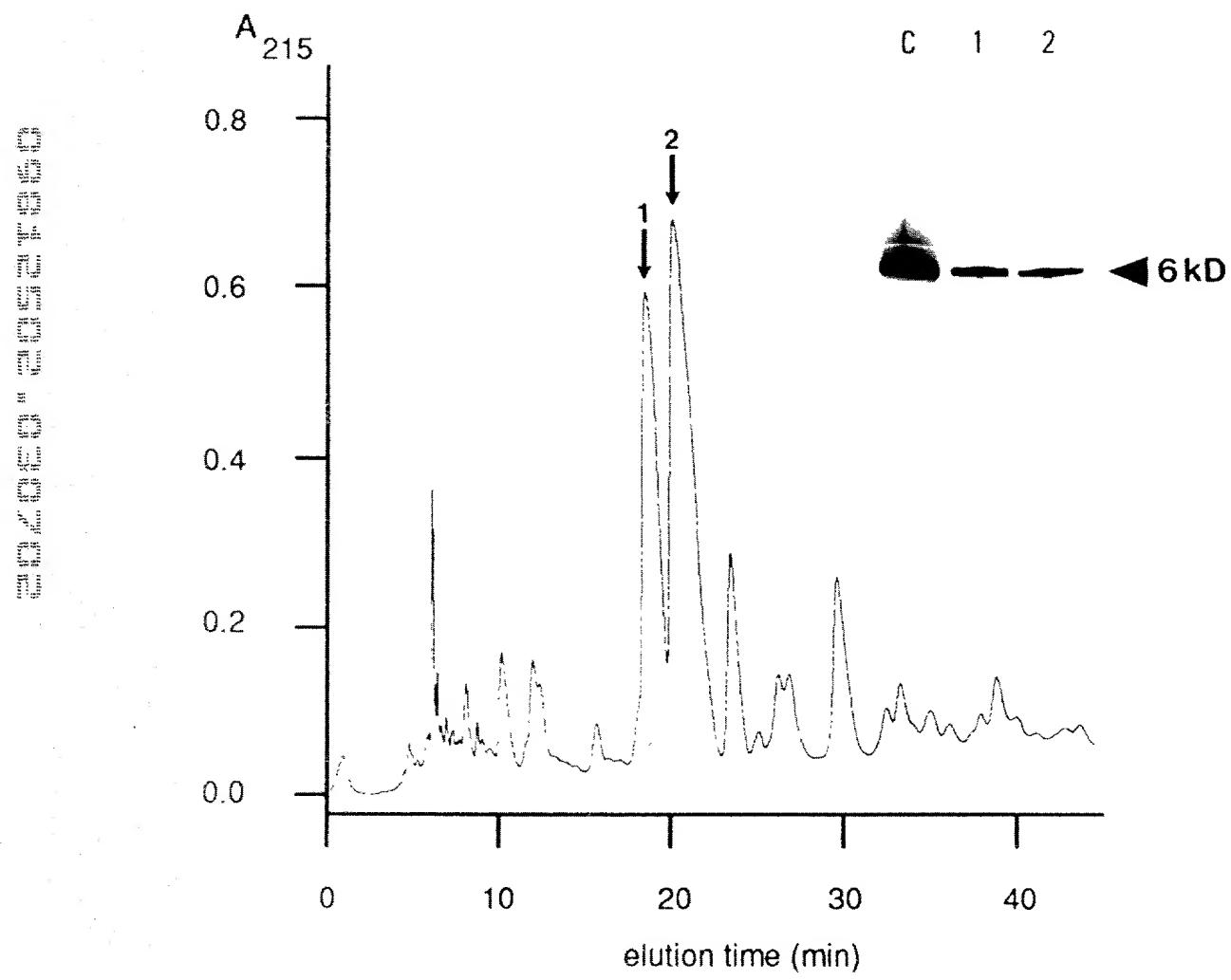
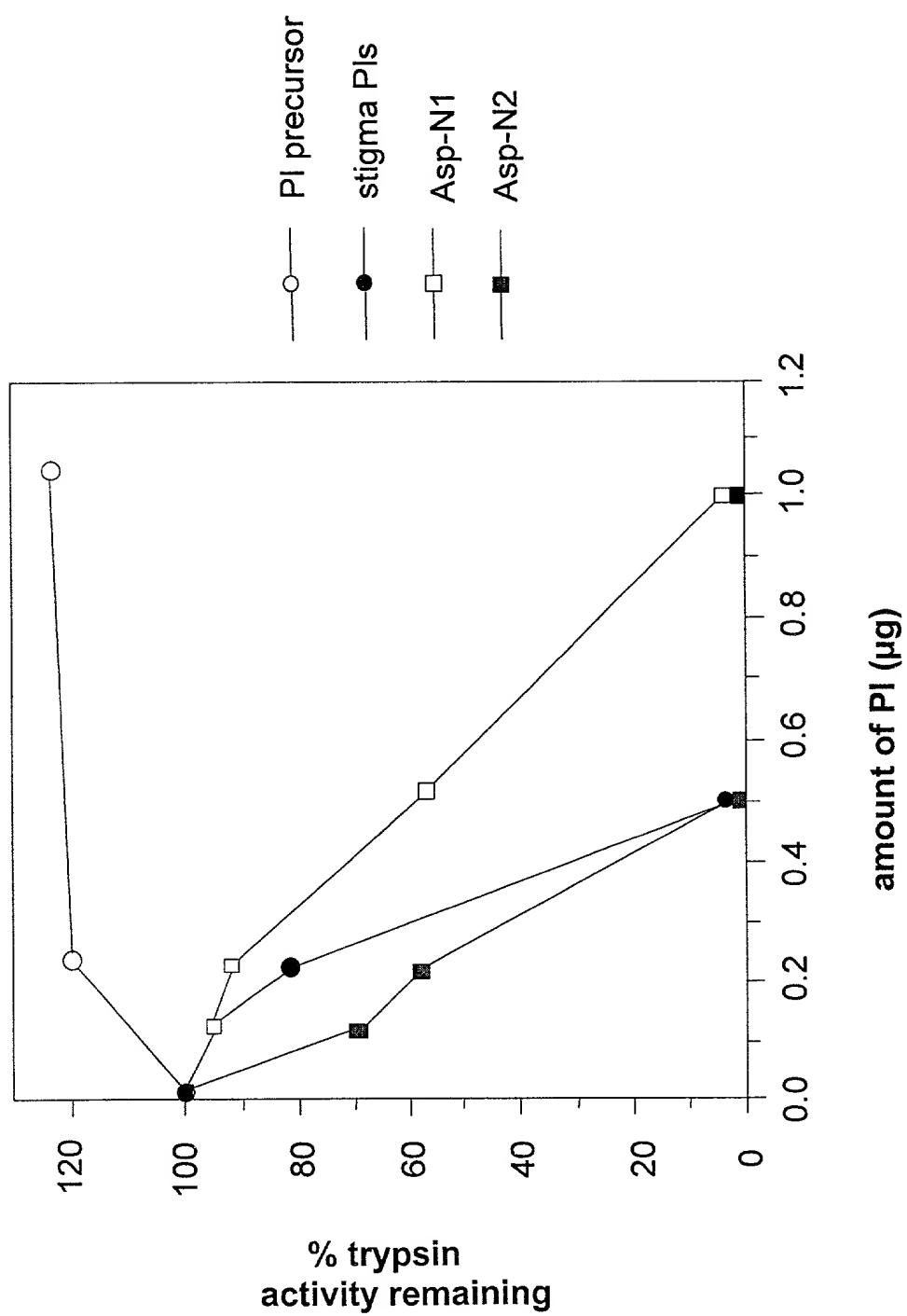


Figure 12

**Figure 13a**

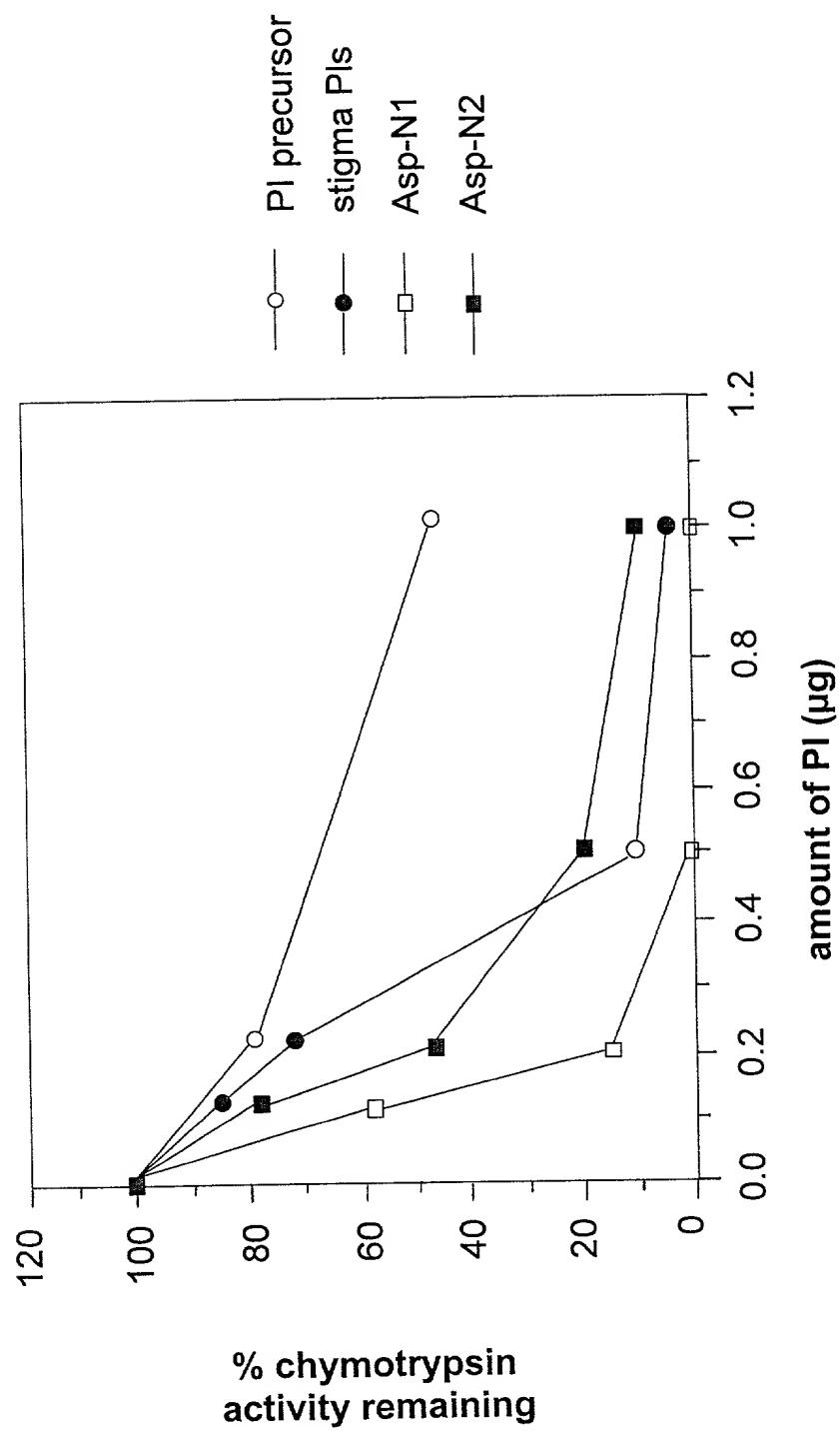


Figure 13b

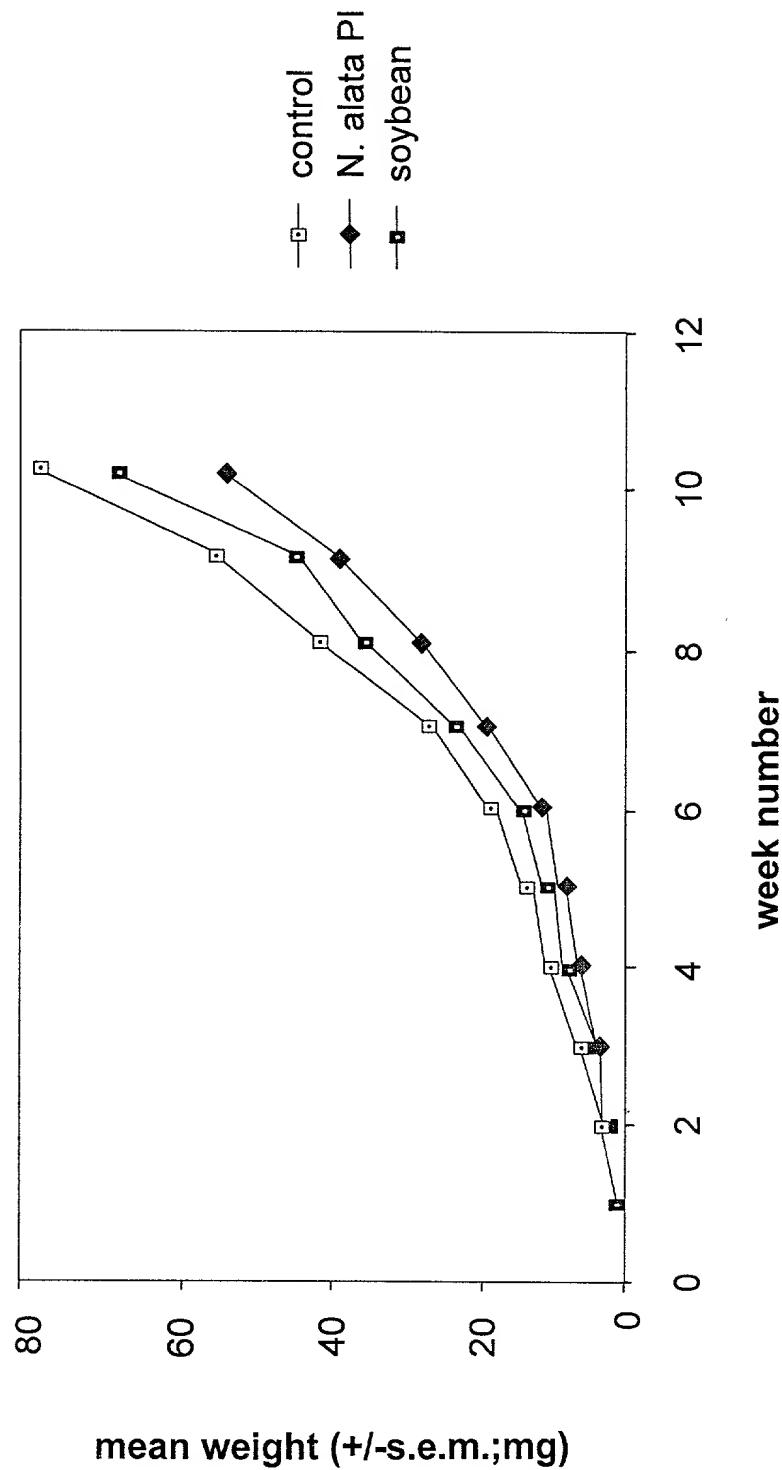


Figure 14